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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California.	Rulemaking No. 20-09-001 (Filed September 10, 2020)

COMMENTS OF CVIN LLC DBA VAST NETWORKS (U7216C) ON ASSIGNED COMMISSIONER'S RULING AUGUST 6, 2021

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I. INTRODUCTION

On August 6, 2021, Assigned Commissioner Martha Guzman Aceves requested comments on SB 156 signed into law by Governor Gavin Newsom on July 20, 2021 (Assigned Commissioner's Ruling). The legislation initiates the creation of a statewide open-access middle-mile broadband network. The new law requires the Commission to solicit and receive public comments, within 90 days of enactment, on a number of topics related to the network.

II. BACKGROUND

CVIN LLC DBA VAST NETWORKS (U7216C) (CVIN) is a facilities-based Competitive Local Exchange Carrier ("CLEC") based out of Fresno, California. It has 2,500 miles of fiber through 23 counties in California and has been providing middle-mile broadband services since 2011. CVIN provides high bandwidth services on an all-fiber network to the Corporation for Education Network Initiatives in California (CENIC), school districts,

community colleges, private and public universities as well as commercial, municipal and carrier customers. It offers both lit and dark fiber services throughout the serving areas. It has enabled libraries, hospitals, schools, and individuals to have affordable broadband services in unserved and underserved areas. It has used funds granted by the California Advanced Services Fund (CASF), the federal government Broadband Technology Opportunities Program (BTOP), and private financing to reach unserved and underserved rural areas.

CVIN has provided competitive and affordable middle-mile services in underserved and unserved areas while insuring those public and private funds are used efficiently and not wasted. Unless thoughtfully applied, SB 156 threatens to undermine years of public-private investment in broadband infrastructure in reaching underserved and unserved rural areas with affordable internet services. The result will be a public monopoly that fails to adequately serve its intended users and discourages private investment and public-private partnerships. CVIN suggests that the State of California middle-mile services be limited to areas that are unserved or underserved because they cannot be economically reached by existing regional broadband providers. CVIN can help identify areas that cannot be reached economically.

There is nothing stopping the Commission from working with existing middle-mile providers to utilize and expand existing middle-mile fiber networks while subsidizing last-mile service to unserved and underserved customers. The Commission has a long-standing rule against funding new projects in areas that have already received funding. In this case, the Commission's current map has middle-mile projects proposed along very similar corridors as CVIN's BTOP project as well as others. CVIN has excess capacity. New infrastructure should not be planned in areas where it can be easily acquired from existing carriers. Building new infrastructure into areas that do not have access to any

existing fiber should be prioritized over those where existing carriers have already incurred the cost to extend into these areas and have capacity readily available.

III. SB 156 CRITERIA

The task for the Commission is to identify statewide open-access middle-mile broadband network locations that meet certain criteria for state resources. There are three key criteria under SB 156.

The first identifying criterion is that the statewide open-access middle-mile broadband network locations "will enable last-mile service connections and are in communities where there is no known middle-mile infrastructure that is open access, with sufficient capacity, and at affordable rates." SB 156, Sec. 3, Chapter 5.8, Section 11549.54, subdivision (b).

CVIN's middle-mile network is open access and serves many of these communities. CVIN has sufficient capacity presently to meet its customer needs and is upgrading its facilities to build greater capacity for new and existing customers while providing affordable rates.

The second identifying criterion is that priority statewide open-access middle-mile broadband network locations include areas that can be built expeditiously, areas with no known middle-mile network access, regions underserved by middle-mile networks, and regions without sufficient capacity to meet future middle-mile needs. SB 156, Sec. 3, Chapter 5.8, Section 11549.54, subdivision (c).

The ArcGIS map released by the Commission has a significant amount of proposed infrastructure where there is in fact existing infrastructure that is available with sufficient capacity to meet needs well into the future. There are ample areas

within California with no known middle-mile network that can exhaust the entire amount of funding under SB 156. CVIN can help identify underserved and unserved areas, although they may not be economically viable for private investment.

The third identifying criterion is that the Commission shall prioritize locations that enable last-mile connections to residences unserved by 25 Mbps downstream and 3 Mbps upstream. The locations prioritized by the Commission may also include entities that lack sufficient high-bandwidth connections, including, but not limited to, schools, colleges, government entities, healthcare institutions, etc. SB 156, Sec. 3, Chapter 5.8, Section 11549.54, subdivision (d).

This last criterion includes locations targeted by CVIN.

CVIN is willing to share with the Commission information concerning routes for middle-mile and last mile state support. Such information is to be treated confidentially consistent with SB 156. [1] CVIN is also willing to serve on a working group as the Commission implements SB 156.

IV. RESPONSES TO ISSUES FOR PUBLIC COMMENT

CVIN has the following responses to issues for public comment in the Assigned Commissioner's Ruling:

1. Identifying Existing Middle Mile Infrastructure: Attachment A [to the Assigned Commissioner's Ruling] provides a list of the state routes proposed for the statewide open access middle mile network, referred to as

[1] The commission may share with the department any confidential information it receives from communications service providers that is related to the development and operation of the statewide open-access middle-mile broadband network, and the department shall not disclose that information. SB 156, Sec. 3, Chapter 5.8, Section 11549.54, subdivision (g).

the "Anchor Build Fiber Highways." These routes may also be viewed on an ArcGIS map, which can be found here: https://www.arcgis.com/home/webmap/viewer.html?webmap=e17e4e1c88b04792ab0a2c50aa1a19a3&extent=-126.1445,34.5234,-113.5981,41.1113

- What routes, if any, should be modified, removed from consideration, or revised? Provide an explanation for these suggestions. **Response:** There are areas on the ArcGIS map that have no or very limited middle-mile infrastructure. CVIN believes that these areas should be given priority because there do not appear to be any options for service. These are all high-cost routes due to the terrain and lack of alternative access other than Caltrans.
- Are there existing middle mile routes that are open access, with sufficient capacity, and at affordable rates on the county highway routes listed in Attachment A? **Response:** CVIN utilized CASF and BTOP grants for a significant portion of its middle-mile network. The network is open access and has available capacity and fiber.
- In the context of these comments, what is sufficient capacity and affordable rates? **Response:** Sufficient capacity should be measured in terms of Gbps and not fiber. A 400 Gbps circuit can be delivered over a single fiber. Affordable rates will need to be defined for purposes of implementing SB 156.
- For routes that are identified as being open access, with sufficient capacity, and at affordable rates, how should the Commission verify

these claims (*e.g.,* should Communications Division send a data request for service term sheets, rates, approximate dark fiber, lit fiber, and conduit capacity, etc.)? Are there any other criteria that should be used to verify these claims? **Response:** In order to maximize the use of the funds under SB 156, CVIN believes that the state should look to buy or lease excess capacity / fiber from existing providers wherever possible to avoid building infrastructure in areas where it is already available. Because the ultimate goal is to serve more Californians, these funds should be focused on the areas of greatest needs. The Communications Division should put out a request for proposals (RFP) for quotes for fiber or, more specifically capacity, along any of the proposed fiber routes to ensure that there is not existing available infrastructure. The Commission will find that it can acquire strands for a fraction of the cost to build it. This should be the first step on any route prior to investing taxpayer funds for construction. The state could opt to buy or lease first, and build as a last resort, to conserve the maximum amount of funds for last mile construction as this is what solves the problem.

2. Priority Areas: Federal funding must be encumbered and spent in a limited time period. Additionally, unserved and underserved areas of the state are in substantial need of broadband infrastructure investment.

    - Is it reasonable to assume counties with a disproportionately high number of unserved households (*e.g.,* 50% or more unserved at 100

Mbps download) are areas with insufficient middle-mile network access? **Response:** CVIN believes that this is not necessarily a good indication of insufficient middle-mile network access. There may be ample middle-mile, but the cost to construct last mile may be prohibitive. Many areas may have fiber middle-mile, but the incumbent providers may not have the fiber infrastructure to reach homes and other end users due to the high cost. This could be a result of aging pole lines that cannot support additional infrastructure, previous use of direct buried copper cables rather than conduit, impacted conduit systems that prevent the installation of new fiber, or other factors that make it not economically feasible. This is why the critical element of this program should be last mile funding.

- What other indicators, if any, should the Commission use to identify priority statewide open-access middle-mile broadband network locations (*i.e.,* build expeditiously, areas with no known middle-mile network access, regions underserved by middle-mile networks, regions without sufficient capacity to meet future middle-mile needs)? **Response:** CVIN believes that funds should be used for expanding middle-mile infrastructure rather than overbuilding existing middle-mile infrastructure. The Commission should focus on short-distance projects extending current middle-mile infrastructure. This will result in the greatest benefit in the shortest amount of time.

3. **Assessing the Affordability of Middle Mile Infrastructure**: A key consideration is determining the cost of various middle mile services. Through identifying the costs of these services in California, as well as across the country and globe the Commission can identify a threshold whereby services can be considered reasonably affordable.

    - What are existing providers paying or charging for middle mile services? **Response:** CVIN is willing to provide this information confidentially under seal.
    - Are there other factors or sources of information the Commission should consider for determining whether these services are affordable? **Response:** CVIN believes this is a difficult task. It is dependent on the actual services being provided at specific locations and the costs associated with building the network.
    - Is it reasonable for the costs of these services to change depending on the location where the service is provided (*i.e.,* rural vs urban)? **Response:** CVIN believes that it is reasonable and typical for a commercial company to base prices off the cost to serve customers. This is dependent on the location. In urban areas, there tends to be more customers per mile and greater competition that drives prices down. In rural areas, there are fewer customers per mile and greater distances. Thus, the cost to serve customers in rural areas can be higher.

4. Leasing Existing Infrastructure: Indefeasible Rights of Use (IRUs) are long term leases (generally 20 to 30 years) for unrestricted, legal capacity on a communications network for a specified period of time. These contracts generally obligate the purchaser to pay a portion of the operating costs, and the costs of maintaining the infrastructure.

    - If there is existing open access communications infrastructure with sufficient capacity to meet the state's needs, should the state purchase IRUs from the network? **Response:** CVIN believes there are existing networks that can meet the needs along many of the routes depicted on the ArcGIS map and that the state should purchase IRUs from these networks.
    - Is there any value in the state purchasing an IRU from the network if capacity is already available? **Response:** CVIN believes that purchasing an IRU from an existing network should be the first option on any route for several reasons. First, an IRU can be purchased at a fraction of the cost of building new infrastructure. Second, the speed at which an IRU can be executed would allow the state to have working nodes in months versus the years that it would take to engineer, build, and construct a fiber route.
    - If the state relies on IRUs for the development of the statewide network, will the generational investment that this funding provides be diminished when the IRU leases end 20 to 30 years

later? Will existing networks run out of spare capacity? **Response:** CVIN believes this can be solved by having renewal provisions in the IRUs. Due to the funding available, the state should obtain IRUs for ample strands that can continue to meet needs well into the foreseeable future. Available bandwidth in a given location is dependent on the electronics connected to the fiber. A simple upgrade of the electronics can increase capacity exponentially while using the same amount of fiber.

5. Interconnection: The statewide network will need to connect with other networks in order to deliver services.
    - At what points should the statewide network interconnect (*e.g.,* to other networks, servers, etc.)? **Response:** CVIN believes that interconnection should occur where existing middle-mile networks terminate so as to expand the network.
    - Are additional exchange points necessary or strategic, and if so, where? **Response:** CVIN believes that exchange points should be created to expand existing middle-mile networks.
6. Network Route Capacity: The state will need to determine the amount of capacity to build into the network to meet existing and future demand.
    - How many strands of fiber should the network deploy for each route? **Response:** CVIN believes that this is not about strand count, but capacity. Capacity is a function of the electronics and not the number of fibers. Entire communities can be served by a

single strand of fiber with the right electronics. This cements the point of acquiring available strands from existing providers as the first option rather than constructing.

- Are there other requirements or standards the Commission needs to consider to determine sufficient capacity? **Response:** CVIN believes that the number of strands is not as important as the technology.
- Should the network also deploy additional conduit within each route for potential future expansion? **Response:** While additional conduit is the industry practice, it also increases the cost of installation and maintenance.
- Should these factors change based on the population density and distance from the core network? **Response:** CVIN believes that they will.

V. CONCLUSION

Unless thoughtfully applied, SB 156 threatens to undermine years of public-private investment in broadband infrastructure in reaching underserved and unserved rural areas with affordable internet services. The result will be a public monopoly that fails to adequately serve its intended users and discourages private investment and public-private partnerships. History has shown that competition spurs innovation and pushes companies to continually offer the latest products and technologies. Broadband is no different. By removing the threat of competition by providing state owned middle-mile services, the Commission will also be removing the ability of communities to benefit from evolving technologies and increased

speeds that future applications will demand. Protected monopolies are not motivated (or pressured) to continually upgrade, enhance quality of services, or contain pricing that organizations that operate in highly competitive environments do constantly. CVIN suggests that the State of California middle-mile services be limited to areas that are unserved or underserved because they cannot be economically reached by existing regional broadband providers. CVIN can help identify areas that cannot be reached economically. Funds should be used to expand existing middle-mile networks and reach last mile customers.

Dated: September 3, 2021

Respectfully submitted,

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